

REMARKS

This Response and Amendment is filed in response to the Office Action dated November 15, 2007.

Claims 1-31 are pending in this application upon entry of this Amendment. Claims 1, 4, 13, 16, and 25 have been amended, leaving claims 2, 3, 5-12, 14, 15, 17-24 and 26-31 unchanged.

Objections to the Specification

In paragraph 1 of the Office Action, the Examiner has objected to the Detailed Description section of the specification and indicates that the reference to U.S. Patent Application Serial No. 10/610,479 should be amended to reflect issuance as U.S. Patent No. 6,843,105. Pursuant to 37 C.F.R. § 1.121(b), Applicants have amended the Detailed Description section of the specification according to the Examiner's suggestion. No new matter has been entered.

Claim Rejections Under 35 U.S.C. § 102(b)

In paragraph 3 of the Office Action, claims 1-3, 5-9, 13-15, 17-21, and 25-27 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,527,573 issued to Stein, Sr. et al. ("Stein").

Amended independent claim 1 recites (underlining added for emphasis):

An insulation bushing assembly for use with an exhaust gas sensor, the insulation bushing assembly comprising:

an insulation bushing including a passageway defining a surface; and

a contact plate assembly having

a contact plate coupled with the insulation bushing, the contact plate having a substantially planar surface engageable with one of an exhaust electrode and a reference electrode in the exhaust gas sensor; and

a resilient member extending from the contact plate for insertion into the passageway, the resilient member

engageable with the surface of the passageway during insertion such that the member is deflected by the surface from an undeflected position with respect to the contact plate to a deflected position with respect to the contact plate.

Stein does not teach or suggest an insulation bushing assembly for use with an exhaust gas sensor, in which the insulation bushing assembly includes an insulation bushing and a contact plate assembly having a contact plate with a substantially planar surface engageable with one of an exhaust electrode and a reference electrode in the exhaust gas sensor. Rather, Stein discloses a connector 10 including a core 22 supporting a plurality of terminals 20 within respective channels 52. An arcuate portion of each of the terminals (i.e., a "contact 92"), identified by the Examiner as Applicants' claimed "contact plate," engages and electrically connects with a respective metallic contact pad 29 disposed on a circuit board 28 extending through a capsule 30 (see FIGS. 4 and 6 in Stein). Stein fails to teach or suggest that the contact 92 on each terminal 20 includes a substantially planar or flat surface that is engageable with one of an exhaust electrode and a reference electrode of an exhaust gas sensor, in the manner claimed by Applicants in amended independent claim 1.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(b) rejection of independent claim 1.

Amended independent claim 13 recites (underlining added for emphasis):

An exhaust gas sensor comprising:

a sensor housing;

a sensor element at least partially enclosed within the housing, the sensor element including at least one of an exhaust electrode and a reference electrode;

an insulation bushing at least partially supported within the housing, the insulation bushing including a passageway defining a surface; and

a contact plate assembly having

a contact plate coupled with the insulation bushing and having a substantially planar surface engaged with one of the exhaust electrode and the reference electrode; and

a resilient member extending from the contact plate for insertion into the passageway, the resilient member engageable with the surface of the passageway during insertion such that the member is deflected by the surface from an undeflected position with respect to the contact plate to a deflected position with respect to the contact plate.

The arguments presented above with respect to the 35 U.S.C. § 102(b) rejection of independent claim 1 apply with equal weight to the 35 U.S.C. § 102(b) rejection of independent claim 13. Stein does not teach or suggest an exhaust gas sensor including a sensor element including at least one of an exhaust electrode and a reference electrode, an insulation bushing, and a contact plate assembly having a contact plate with a substantially planar surface engaged with one of the exhaust electrode and the reference electrode.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(b) rejection of independent claim 13.

Amended independent claim 25 recites (underlining added for emphasis):

A method of assembling an exhaust gas sensor, the method comprising:

providing an insulation bushing including a passageway defining a surface;

providing a contact plate assembly including a contact plate and a resilient member extending from the contact plate;

inserting the resilient member into the passageway;

engaging the resilient member with the surface;

deflecting the resilient member from an undeflected position with respect to the contact plate to a deflected position with respect to the contact plate; and

engaging a substantially planar surface of the contact plate with one of an exhaust electrode and a reference electrode of the exhaust gas sensor.

The arguments presented above with respect to the 35 U.S.C. § 102(b) rejection of independent claim 1 apply with equal weight to the 35 U.S.C. § 102(b) rejection of independent claim 25. Stein does not teach or suggest a method of assembling an exhaust gas sensor including the steps of providing an insulation bushing and a contact plate assembly having a

contact plate, and engaging a substantially planar surface of the contact plate with one of an exhaust electrode and a reference electrode of the exhaust gas sensor.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(b) rejection of independent claim 25.

Claim Rejections Under 35 U.S.C. § 102(a)

In paragraph 9 of the Office Action, claims 1, 5-13, and 17-31 are rejected under 35 U.S.C. § 102(a) as being anticipated by Applicants' admitted prior art exhaust gas sensors, as shown in FIGS. B-R in Applicants' Information Disclosure Statement submitted April 12, 2004.

With respect to amended independent claim 1, Applicants' admitted prior art exhaust gas sensors do not teach or suggest an insulation bushing assembly for use with an exhaust gas sensor, in which the insulation bushing assembly includes an insulation bushing having a passageway defining a surface, and a contact plate assembly having a contact plate and a resilient member extending from the contact plate for insertion into the passageway, in which the resilient member is engageable with the surface of the passageway during insertion such that the member is deflected by the surface from an undeflected position with respect to the contact plate to a deflected position with respect to the contact plate.

Rather, the compression tab (see FIG. I), identified by the Examiner as the claimed "resilient member" in claim 1, of the admitted prior art contact plate assemblies is engaged with a heater element – not a surface of a passageway in an insulation bushing – to deflect the compression tab in the manner claimed in independent claim 1. Furthermore, the compression tab is not deflected in the manner claimed in independent claim 1 upon insertion into a passageway in an insulation bushing. Indeed, during assembly of the prior art insulation bushing assembly shown in FIG. H, the contact plate assemblies are first positioned within the respective passageways of the short insulation bushing and the long insulation bushing, and then the heater element is positioned between the respective contact plate assemblies to deflect the compression tabs to secure the short insulation bushing, the heater element, and the contact plate assemblies as a unitized sub-assembly to facilitate its handling.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(a) rejection of independent claim 1.

Claims 2, 3, and 5-12 are each ultimately dependent upon independent claim 1, and are believed to be allowable based upon independent claim 1 and upon other features and elements claimed in claims 2, 3, and 5-12 but not discussed herein.

With respect to amended independent claim 13, the arguments presented above with respect to the 35 U.S.C. § 102(a) rejection of independent claim 1 apply with equal weight to the 35 U.S.C. § 102(a) rejection of independent claim 13. Applicants' admitted prior art exhaust gas sensors do not teach or suggest an exhaust gas sensor including insulation bushing having a passageway defining a surface, and a contact plate assembly having a contact plate and a resilient member extending from the contact plate for insertion into the passageway, in which the resilient member is engaged with the surface of the passageway during insertion such that the member is deflected by the surface from an undeflected position with respect to the contact plate to a deflected position with respect to the contact plate.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(a) rejection of independent claim 13.

Claims 14, 15, and 17-24 are each ultimately dependent upon independent claim 13, and are believed to be allowable based upon independent claim 13 and upon other features and elements claimed in claims 14, 15, and 17-24 but not discussed herein.

With respect to amended independent claim 25, the arguments presented above with respect to the 35 U.S.C. § 102(a) rejection of independent claim 1 apply with equal weight to the 35 U.S.C. § 102(a) rejection of independent claim 25. Applicants' admitted prior art exhaust gas sensors do not teach or suggest a method for assembling an exhaust gas sensor including the steps of providing an insulation bushing having a passageway defining a surface, providing a contact plate assembly having a contact plate a resilient member extending from the contact plate, inserting the resilient member into the passageway, and engaging the resilient member with the surface of the passageway.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(a) rejection of independent claim 25.

Claims 26-31 are each ultimately dependent upon independent claim 25, and are believed to be allowable based upon independent claim 25 and upon other features and elements claimed in claims 26-31 but not discussed herein.

Claim Rejections Under 35 U.S.C. § 103

In paragraph 16 of the Office Action, claims 4 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stein.

Claim 4 is ultimately dependent upon independent claim 1, which, as amended, Applicants believe to be allowable over Stein. As such, Applicants respectfully submit that dependent claim 4 is allowable based upon independent claim 1 and upon other features and elements claimed in claim 4 but not discussed herein. Applicants have also amended claim 4 to include the word “degrees,” which was inadvertently omitted from originally-filed claim 4, after the phrase “about 10 to about 12.5.”

Claim 16 is ultimately dependent upon independent claim 13, which, as amended, Applicants believe to be allowable over Stein. As such, Applicants respectfully submit that dependent claim 16 is allowable based upon independent claim 13 and upon other features and elements claimed in claim 16 but not discussed herein. Applicants have also amended claim 16 to include the word “degrees,” which was inadvertently omitted from originally-filed claim 16, after the phrase “about 10 to about 12.5.”

CONCLUSION

In view of the amendments and remarks presented herein, it is respectfully submitted that the claims as amended are in condition for allowance. The Applicants kindly request that the Examiner telephone the undersigned in the event a telephone discussion would be helpful in advancing the prosecution of the present application.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Richard L. Kaiser".

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